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In re Application of:	Mahesh GIRKAR et al.
Group Art Unit	2177
Examiner Name	Le, D.
Attorney Docket Number	50277-1003
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ENCLOSURES ***(check all that apply)***

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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Date	June 13, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Mahesh GIRKAR et al.	
Application No.: 09/852,008	Group Art Unit: 2177
Filed: May 10, 2001	Examiner: Le, D.
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For: DISASTER RECOVERY WITH BOUNDED DATA LOSS

APPEAL BRIEF

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated September 10, 2004 and the Notification of Non-Compliant Appeal Brief dated May 12, 2005.

I. REAL PARTY IN INTEREST

Oracle International Corp. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals and interferences.

III. STATUS OF THE CLAIMS

Claims 1-16 are pending in this appeal, in which no claim has earlier been canceled. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1-16 on March 16, 2004.

IV. STATUS OF AMENDMENTS

No amendment to claims has been filed after final rejection.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention addresses problems addresses difficulties in database systems. For example, the Background section of the present application explains that "it is difficult to characterize the amount of data lost in terms that database owners can best understand. The maximum exposure for loss of data in this approach is usually described in terms of the size of the redo logs, but this information is not helpful for database owners, who would rather want to know how many orders were lost" (Background, ¶ 7). In recognition of this problem, the method recited in the claims sets forth the use of "a predetermined number of transactions" in synchronizing a transaction (claim 1; see FIG. 3, item 303 showing the use of a transaction counter). "Because the predetermined bound is specified in terms of the number of transactions, the database operator can set a meaningful tradeoff between performance and data availability that is appropriate for the particular needs of the database operator's installation" (Summary, ¶ 11).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-6, 8, and 10 are obvious under 35 U.S.C. § 103(a) based on *Rastogi et al.* (U.S. 6,205,449) in view of *Cooper et al.* (U.S. 6,079,000)?

Whether claims 7 and 9-15 are obvious under 35 U.S.C. § 103(a) based on *Rastogi et al.* in view of *Cooper et al.* and further in view of *Hapner et al.* (U.S. 5,940,827)?

Whether claim 14 is obvious under 35 U.S.C. § 103(a) based on *Rastogi et al.* in view of *Hapner et al.*?

Whether claim 16 is obvious under 35 U.S.C. § 103(a) based on *Rastogi et al.* in view of *Cooper et al.* and further in view of *Nilsen et al.* (U.S. 5,668,986).

VII. ARGUMENT

A. ALL PENDING CLAIMS ARE NON-OBVIOUS OVER *RASTOGI ET AL.* BECAUSE NONE OF THE REFERENCES TEACH OR SUGGEST SYNCHRONIZING TRANSACTIONS BASED ON A "PREDETERMINED NUMBER OF TRANSACTIONS."

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed .Cir. 1997); *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

1. CLAIMS 1-6, 8, AND 10 ARE NON-OBVIOUS OVER *RASTOGI ET AL.* IN VIEW OF *COOPER ET AL.*

Reversal of the rejection of claims 1-6, 8, and 10 over *Rastogi et al.* and *Cooper et al.* is respectfully requested because the references do not teach or otherwise suggest the limitations of the claims. For example, independent claim 1 recites: "synchronizing a transaction performed on the primary database system based on a number of transactions in the buffer and **a predetermined number of transactions**."

The Examiner correctly acknowledges that "Rastogi does not explicitly teach a predetermined number of transactions" (p. 3). Indeed, the portion of *Rastogi et al.* cited for transactions, col. 8:3-8, only discusses "transactions" in the model described in the reference. There is no mention or suggestion of "synchronizing a transaction," much less "synchronizing a transaction" based on "a predetermined number of transactions."

Cooper et al. too fails to show this feature. In fact, *Cooper et al.* exhibits many of the same difficulties described in the background and addressed by the invention recited in claim 1. For example, *Cooper et al.* recommends managing the "optimal transfer efficiency" between the audit host memory **342** and the XPC cache area **350** based on a "predetermined size of audit host memory **342**," which is given in terms of a "predetermined number of address locations within audit host memory **342**" (col. 12:39-40). Referring now to FIG. 9 of *Cooper et al.*, transactions **344**, **354**, **362**, and **370** clearly have different sizes in terms of the number of audit host memory **342** locations. For example, transaction **354** is about half the size of transaction **344** and about a third of the size of transaction **362**. When transaction sizes are so variable as in *Cooper et al.*, pre-specifying buffers in terms of number of memory locations or bytes does not meaningfully specify "a predetermined number of transactions" as set forth in independent claim 1. In fact, this

variability in transaction size is what dooms *Cooper et al.*'s approach to exhibit the problems addressed by the invention of independent claim 1.

The portion of *Cooper et al.* cited in the Office Action, col. 12:30-43, does not support the rejection. Although *Cooper et al.* speculates that "the optimal transfer characteristics of the physical audit trail **378** may determine when a sufficient number of transactions have been accumulated in audit host memory **342**" (col. 12:33-36), *Cooper et al.* then defines what it means a "sufficient number of transactions"—not in terms of a "predetermined number of transactions" as recited in claim 1—but explicitly in terms of the size of audit host memory **342**: "Thus, the optimal transfer efficiency may correspond to the a predetermined size of audit host memory **342**" (col. 12:36-38). Due to the variability in transaction sizes evident in FIG. 9, *Cooper et al.*'s criterion based on a predetermined memory size can only crudely and inaccurately correspond to the actual number of transactions in the audit host memory **342**. However, *Cooper et al.* is not concerned with providing a meaningful bound to database administrators but focused on transferring data between memories as efficiently as possible. Thus, *Cooper et al.* actually **teaches against** using a "predetermined number of transactions," since transferring one predetermined number of tiny transactions is less efficient than transferring the same predetermined number of large transactions. If a proposed modification would render the reference being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

As for col. 14:41-43, also cited in the Office Action, *Cooper et al.* makes a similar recommendation for the size of the XPC cache area **350** in terms of "a predetermined number of address locations within XPC cache area **350**" (col. 14:39-41) and is therefore similarly deficient for the same reasons as with the size of audit host memory **342**. Furthermore, *Cooper et al.* states

that the "synchronous audit data request results in a portion of the audit host memory **342** being written to a corresponding portion of non-volatile memory storage such as XPC cache **350**" (col. 11:50-53), thus the relevance of the size of the XPC cache area **350** to "synchronizing a transaction" as recited in independent claim 1 is not immediately apparent.

2. CLAIMS 7, 9, AND 11-16 ARE NON-OBVIOUS OVER *RASTOGI ET AL.* AND *COOPER ET AL.* IN VIEW OF *HAPNER ET AL.*

Concerning dependent claims 7 and 9 as well as claims 11-16, the use of the non-analogous *Hapner et al.* does not support the rejection by curing the deficiencies of *Rastogi et al.* and *Cooper et al.* or by disclosing the additional features recited in claims 7, 9, and 11-16. *Hapner et al.* relates to maintaining a database cache in conjunction with a persistent database portion and uses a "transaction counter" (col. 3:44) for keeping track of how many open transactions there are in the database cache **140**. *Hapner et al.* lacks any disclosure of using such a "transaction counter" for any set of "transactions to be sent to a standby database system." Since neither *Rastogi et al.* nor *Cooper et al.* operate with a predetermined number of transactions to be sent to a standby database system, there is no motivation to modify *Rastogi et al.* and/or *Cooper et al.* to count something none of the references seem to care about.

Furthermore, the only comparison of *Hapner et al.*'s transaction counter is with zero (0) in FIG. 10, step 469, and FIG. 11, steps 512 and 536. However, claim 11 explicitly recites "**compare** the counter and **the predetermined bound**" and claim 12 recites "**comparing** a counter indicating a number of the transactions in a queue of transactions to be sent to a standby database system and **a predetermined bound of transactions**." Whatever *Cooper et al.* may be thought to disclose about the optimal transfer size of audit host memory **342**, the optimal transfer size certainly cannot be zero! Thus, even if the Examiner might be correct in responding that

"Hapner does apply a transaction counter in a replicating data" (p. 11), the claims are more specific than that and the use of a counter in the specific context of claims 7, 9, and 11-16 is not disclosed in *Hapner et al.*

3. CLAIM 14 IS NON-OBVIOUS OVER *RASTOGI ET AL.* IN VIEW OF *HAPNER ET AL.*

Claim 14 was further rejected over *Rastogi et al.* in view of *Hapner et al.* However, as argued above in section VII. A. 2, claim 14 is not obvious over *Rastogi et al.* and *Cooper et al.* in view of *Hapner et al.* because all three references lack a teaching or suggestion of using a "transaction counter" for any set of "transactions to be sent to a standby database system." Accordingly, claim 14 is also not obvious over the smaller set of these references, i.e. *Rastogi et al.* in view of *Hapner et al.*

4. CLAIM 16 IS NON-OBVIOUS OVER *RASTOGI ET AL.* FURTHER IN VIEW OF *NILSEN ET AL.*

Nilsen et al., applied only against claim 16, does not furnish a disclosure of "synchronizing a transaction performed on the primary database system based on a number of transactions in the buffer and the corresponding bound" which is missing in *Rastogi* and *Cooper et al.* as explained in section VII. A. 2. The Examiner, properly, did not rely not *Nilsen et al.* for this factual inadequacy of *Rastogi et al.* and *Cooper et al.* Thus, claim 16 too is patentable over *Rastogi et al.*, *Cooper et al.*, and *Nilsen et al.*, and its rejection is respectfully requested.

VIII. CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, Appellants request the Honorable Board to reverse each of the Examiner's rejections.

Respectfully Submitted,

DITTHAVONG & CARLSON, P.C.

6/13/2005
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